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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/833,546	04/11/2001	Ralph A. Mosher	D/A0584	4763

7590 06/13/2003

Patent Documentation Center
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EXAMINER
DICUS, TAMRA

ART UNIT	PAPER NUMBER
1774	7

DATE MAILED: 06/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-7

Office Action Summary	Application No.	Applicant(s)	
	09/833,546	MOSHER ET AL.	
	Examin r	Art Unit	
	Tamra L. Dicus	1774	

-- Th MAILING DATE of this communication app ars on th cover sh et with the correspondenc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 April 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Amendment

The rejection under 35 U.S.C. 103(a) over claims 1 and 3-25 is maintained.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 and 3-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,721,032 to Parker et al. in view of USPN 6096470 to Fuller and further in view of USPN 5,663,283 to Sakakibara et al. and *Handbook of Thermoset Plastics* (2nd Edition) ©1998.

Parker teaches an endless seamed flexible intermediate belt comprising a first and second end, where each comprises plural mutually mating elements, joined in an interlocking relationship, forming a seam. **See col. 8, lines 20-60.** The belt comprises a substrate of a polyimide, polyamide, or polycarbonate and the seam comprises an adhesive comprising a polyamide strip. See col. 2, lines 25-30, col. 5, lines 11-20, and col. 9, lines 20-38. The plurality of mutually mating elements are in the form of a puzzle cut pattern, which further comprise a first projection and second receptacle which are curved, forming a joint between first and second ends. See Figures 1-11, col. 5, lines 45-65. Parker teaches the volume resistivity of 10^8 to 10^{11} ohms-cm at col. 5, lines 24-27 (meeting claims 19-20).

Parker does not explicitly state the adhesive polyamide further comprising an alcohol

soluble polyamide, consisting of methoxy or methylene methoxy groups, an electrically conductive filler such as a quaternary ammonium salt, having metal oxides such as titanium dioxide aluminium oxide, or carbon fillers such as carbon black or fluorinated carbon, or a polymer filler such as polypyrrole, or charge transporting molecules such as bis(dihydroxy diethylamino) triphenyl methane, or dihydroxy tetraphenyl biphenylene diamine, or a crosslinker such as oxalic acid, or the structure of claims 2-6. However, Fuller discloses it is known in the art to use the aforementioned alcohol soluble polyamide adhesive additives for producing flexible electrophotographic imaging members such as an endless belt at col. 7, lines 1-15, 49-67, col. 8, lines 1-17, 50-65, col. 9, lines 1-35, col. 16, lines 50-53, col. 19, lines 39-50, col. 20, lines 20-25. Fuller further details the polyamide structure of claims 2-5 at col. 15, especially lines 55-68 and col. 16, lines 1-2. With regard to the n number, the same consistency (solid) is produced, and n = 50 to 1000 is equivalent to x=an integer. While Fuller does not show the R on the N; however, Fuller does teach the R can be substituted on the N in order to crosslink, as taught at col. 15, line 31. Parker and Fuller are analogous art because both references are in the same field of endeavor, such as electrophotography teaching endless belts. Hence, it would have been obvious to one of ordinary skill in the art to modify the endless belt of Parker to include the adhesive composition of Fuller to produce an improved belt having properties such as a longer wear life as taught by Fuller at col. 5, line 67, and col. 6, lines 1-50 and to substitute the R on the N as taught by Fuller in order to crosslink at col. 15, line 31.

Parker does not teach a substrate of polyaniline polyimide. However, Sakakibara teaches it is known to use polyaniline with electrically conductive fillers and the same adhesive additives above to produce electrically conductive supports for electrophotographic members at col. 6,

lines 20-64. Moreover, pg. 426 of the Handbook of Themoset Plastics by Landis et al. states it is known to blend polyaniline with polyimides, useful as coats or conductive composites to serve two roles of loadbearing and electrical current dispersal. Therefore, it would have been obvious to one of ordinary skill in the art to modify the belt of Parker to include polyaniline polyimide on a substrate as used by Sakakibara and further taught by Landis to improve conductivity of a substrate. The examiner has established a *prima facie* case of obviousness and has provided evidentiary support thereof for the rejection under 35 U.S.C. 103(a).

Response to Arguments

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Applicant alleges Parker, Fuller and Sakakibara do not teach the use of an alcohol-soluble polyamide as an adhesive, and the use of such adhesive to seam two ends of a belt together. More specifically, Applicant contests that the alcohol-soluble polyamide is used in a layer and not used as an adhesive, thereby not teaching alcohol-soluble polyamide used to bind together two ends of a belt. The Applicant has not provided a persuasive argument. Parker shows polyamide used as an adhesive, and in Example 1 states polyamide melting into the seamed area of the belt. Therefore, the alcohol soluble polyamide is taught as added to the interlocking ends, to bind two ends together. Parker show polyamide used in the seams and Fuller shows that *alcohol soluble* polyamide as adhesive in belts, teaching the same chemical structure. See col. 6, lines 50-59, col. 8, lines 4-10, and especially col. 15, lines 33-36. The properties of alcohol-soluble polyamide as so disclosed.

Further the term polyamide encompasses many kinds of polyamindes including Applicant's alcohol soluble polyamide. The alcohol soluble polyamide automatically functions as an adhesive, the same material is used as Applicant claims, so the function is the same. Applicant appears to ignore this unassailable fact. Parker teaches the exact same puzzle cut seam as claimed. Parker does not need to show the polyamide as being alcohol soluble, but since Fuller used as the secondary reference, states alcohol soluble polyamide as adhesive, the motivation to combine is present.

With regards to Applicant's argument that the *Handbook of Thermoset Plastics* and Sakakibara do not teach alcohol soluble polyamide, the aforementioned references were included to show only that polyaniline and polyimide are applicable to any substrate, such as a seam endless belt, to improve conductivity. Again, the Handbook and Sakakibara are used as secondary references, not used as primary references, and therefore do not have to teach use of an alcohol-soluble polyamide adhesive to bind tow ends of a belt together as Applicant contends. Fuller teaches alcohol soluble polyamides as adhesive. Applicant's contention that all references do not teach the mutually mating elements relationship of the seamed belt, all the references do not have to as Parker, the primary reference, discloses the same orientation of the seamed belt. The other references are analogous art and were not included of purpose of showing a seamed belt.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamra L. Dicus whose telephone number is (703) 305-3809. The examiner can normally be reached on Monday-Friday, 7:00-4:30 p.m., alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on (703) 308-0449. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-8329 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Tamra L. Dicus
Examiner
Art Unit 1774

CYNTHIA H. KELLY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

June 10, 2003